Before the

FEDERAL COMMUNICATIONS COMMISSION
Washington, DC. 20554

In the Matter of	**)**	
	)	
Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems	**)**	**ET Docket No. 04-37**

To: The Federal Communications Commission

Comments from Scott A. Ginsburg
Amateur Radio Operator K1OA

The following are formal comments from Scott A. Ginsburg, an Amateur Radio operator (Extra Class licensee – call sign K1OA).

Let me start by commending the Commission on your desire to protect the current users of the HF radio spectrum, including the Amateur Radio Service and its more than 600,000 licensed operators. By acknowledging that BPL in its current form has demonstrated the potential to cause interference to HF services, you have taken the first steps toward protecting those services from the unwanted radio emissions created by BPL systems operating in the HF spectrum.

Changing Antenna Orientation as an Interference Mitigation Technique

The Notice of Proposed Rulemaking (NPRM) has the following statement in Paragraph #35:

"We recognize that amateur operations are likely to present a difficult challenge in the deployment of Access BPL in cases where amateurs use high gain outdoor antennas that are located near power lines. In considering this interference potential, we note that ARRL acknowledges that noise from power lines, absent any Access BPL signals, already presents a significant problem for amateur communications. We therefore would expect that, in practice, many amateurs already orient their antennas to minimize the reception of emissions from nearby

electric power lines."

Many Amateur Radio stations use directional antennas to communicate using HF frequency bands. These antennas are typically mounted on a supporting structure and can be rotated 360 degrees in any direction. They are usually pointed in the compass direction of the station being communicated with.

In this NPRM, the Commission is implying that amateurs should not communicate in the direction of electric power lines carrying BPL service that is generating interference. This is an unacceptable mitigation procedure to be required of the Amateur operator. It is important that an Amateur Radio station be ready to respond to any and all emergency communications, which may require pointing his or her antenna in any direction at any time. Furthermore, this is an impingement on the freedom of the Amateur Radio operator who desires to communicate with certain other Amateur operators who may reside in locations that require an antenna to point toward unwanted interference.

Claims of no interference reports by BPL service providers

From Paragraph #20 of the NPRM:

"On the other hand, BPL equipment manufacturers and service providers state that Access BPL does not pose an unacceptable risk of increased interference to licensed radio services. They note that there have been no complaints of interference from BPL and that the existing Part 15 rules adequately protect incumbent spectrum users."

From Paragraph #21 of the NPRM:

"Southern indicates that it is unaware of any reported cases of harmful interference from use of its Access BPL technology."

I respectfully submit that these claims are based on a very limited sample size of BPL deployments and should not be taken as evidence that BPL trial systems deployed today are not generating HF radio interference. The American Radio Relay League has

documented that certain BPL trial systems *are* causing interference. Experience with recent trials by Progress Energy in North Carolina has further proven that BPL systems cause HF radio interference.

Amateur Radio receiving equipment is Highly Sensitive

From Paragraph #23 of the NPRM:

"Current Technologies submits that its data indicate that BPL emissions drop off very rapidly away from the BPL source and that emissions fall off in point-source fashion."

While that may be true, state of the art Amateur Radio receiving equipment is extremely sensitive and when operated in conjunction with high gain antennas which "amplify" the incoming signals, and in close proximity to a power line main carrying BPL transmissions, is highly likely to pick up those transmissions. (I own an HF receiver which is capable of 0.25 uV @ 10 dB S/N).

Elimination of Interference by BPL Service Providers

From Paragraph #31 of the NPRM:

"Under these rules, operators of Access BPL systems will be responsible for eliminating any harmful interference that may occur."

I cannot stress the importance of this statement, and I applaud the Commission's commitment to preserving the non-interference requirements of Part 15. I would further add that *any* interference is potentially harmful. Amateur HF operations often involve reception of weak signals and the presence of even the weakest interfering signals from BPL could destroy an Amateur Radio operator's ability to communicate.

Interference must be eliminated at any time, regardless of how long a BPL system has been operating without a BPL operator having received interference complaints. Amateur Radio operators or any other users of the HF spectrum may relocate to an area

containing BPL emissions and begin reporting that interference is occurring. BPL operators must implement mitigation techniques at that time.

Measurement Techniques for Compliance

From Paragraph #45 of the NPRM:

"We tentatively propose that Access BPL systems, including all BPL electronic devices, e.g., couplers, injectors, extractors, repeaters, boosters, concentrators installed on the electric utility overhead or underground medium voltage lines etc., be measured in-situ to demonstrate compliance with our Part 15 rules, at a minimum of three overhead and three underground representative locations, using the measurement guidelines in Appendix C."

As stated earlier, Amateur Radio receiving equipment is extremely sensitive. To that end, measurement techniques alone must not determine that a BPL system is operating within the Commission's regulations. In cases where an Amateur Radio Operator, or any other private citizen utilizing the HF spectrum, has notified a BPL Service Provider that interference is occurring, the final determination that interference is being generated should only be done at the site of the receiver experiencing such interference. It should not be possible for a BPL Service Provider to claim that they are operating within the regulations based purely on emissions measurements.

Enforcement of Cessation of Operations When Interference Occurs

From Paragraph #39 of the NPRM:

"Thus, operations must cease if harmful interference to licensed services is caused."

I respectfully submit that BPL regulations need to define a reasonable period of time within which BPL Service Providers notified in writing by a private citizen that interference is occurring, must either initiate mitigation procedures, or cease operations. I suggest 48 hours as that time period.

Further, may I suggest a period of one week from the initial interference complaint, to be given to BPL Service Providers in order for them to complete the implementation of mitigation procedures, upon which if the interference still occurs, they must cease operations or be subject to fines determined by the Commission. These fines must be sufficiently large in order to deter BPL Service Providers from continuing operations.

BPL System Immunity to Amateur Radio Emissions

While not covered in the NPRM, this individual believes that the BPL regulations should specify that BPL Service Providers be responsible for implementing mitigation procedures in the event that an Amateur Radio station's radio frequency emissions cause BPL equipment failures. The Amateur Radio operator must be explicitly afforded legal protection from punitive actions by government (Federal, State or local municipalities) or private entities as a result of BPL system failure due to Amateur Radio Service transmissions.

Notification of Possible Service Interruption

I respectfully submit that BPL regulations should require BPL Service Providers to notify perspective customers that the BPL system may be subject to outages occurring either while interference mitigation procedures are performed by the BPL Operator, or caused by licensed radio services. This will properly alert perspective customers as to the risk of BPL services, and clearly remove any burden on licensed radio services.

Summary

In summary, I would again applaud the Commission for their continued stance on protecting the existing users of the HF spectrum, and for drafting regulations which place

the requirement of interference mitigation on BPL Service Providers, using the appropriate combination of specific deadlines and punitive measures to ensure compliance.

The Amateur Radio Service is one of a proud tradition of serving the public interest through Emergency Communication, assistance to our armed forces through the Military Affiliate Radio System, and will continue to be an integral part of our Homeland Security department going forward. Please ensure that this role is continued.

Respectfully Submitted,

Scott Ginsburg,
Member, Massachusetts Emergency Management Association Radio Group

April 28, 2004